

Site Code ¹ **SW86**



Location 4 km West of Winchelsea, Ondit Road
Landform Gently undulating plain
Geology Quaternary volcanics: basalt
Element Depression, flat
Slope 0
Aspect 0

'Slickensides' in B22 horizon indicate shrink-swell behaviour

Horizon	Depth (cm)	Description
Ap	0-8	Very dark brown (10YR2/2 moist), greyish brown (10YR5/2 dry); sandy clay loam; rusty root channel mottling prominent; hard-setting; strong consistence; pH 6.2; clear boundary to:
A2	8-17	Very dark greyish brown (10YR3/2 moist and 10YR5/1 dry); loam; rusty mottling prominent (~5% fine magnetic buckshot); strong consistence; pH 6.9; abrupt boundary to:
B21tg	17-40	Very dark greyish brown (10YR3/2 moist), dark greyish brown (10YR4/2 dry) with olive grey (5Y5/2 moist) mottles in ped interiors, and prominent yellowish brown (10YR5/8 moist) mottles associated with root channels; light medium clay to medium clay; many (~25%); roughly coarse prismatic (~100 mm), parting to coarse (mostly rough-face) blocky and angular coarse blocky; very strong consistence, pH 8.1; clear boundary to:
B22ss	40-60	Very dark greyish brown (2.5Y3/2 moist); fine lenticular and polyhedral structure; moderately slickensided; pH 8.6; clear boundary to:
B23	60-80	Dark greyish brown (2.5Y4/2 moist); light medium clay; apedal; pH 8.8; clear boundary to:
B24kg	80-200	Olive to light olive grey (5Y6/2-5/3 moist); fine brownish yellow (10YR6/8 moist) mottles; soft, yellowish white carbonate; calcareous continues to 2 metres; pH 9.2

Management considerations

The dense, coarsely-structured sodic subsoil is dispersive, restricting root growth and drainage. The subsoil displays vertic features (i.e. slickensides) which indicates that significant shrinking and swelling occurs during wetting and drying cycles. This may have engineering implications and is likely to explain the variability in surface horizon depth across the trench. The subsoil has a high level of soluble salts, which will restrict the growth of salt-sensitive species.



Vertic (& Calcic), Mottled-Mesonatric, Black SODOSOL

The large amounts of calcium carbonate present in the deeper soil are a common feature in soils in the eastern portion of the Victorian Volcanic Plain.

¹ Source: MacEwan R, Imhof M (in press) Major Soils and Landscapes along the Southwest Gas Pipeline 1999. DPI

Analytical data²

Site SW86	Sample depth cm	pH		EC dS/m	NaCl %	Ex Ca cmolc/kg	Ex Mg cmolc/kg	Ex K cmolc/kg	Ex Na cmolc/kg	Ex Al mg/kg	Ex Acidity cmolc/kg	FC -10kPa %	PWP -1500kPa %	KS %	FS %	Z %	C %
		H ₂ O	CaCl ₂														
Ap	0-8	6.2	5.7	0.24	N/R	7.3	8.9	0.72	1.4	<10	12	35	17.9	20.2	30.5	14	28
A2	8-17	6.9	6.2	0.15	N/R	4	5.2	0.2	1	N/R	N/R	22.2	8.9	26.1	39.6	15	18
B21tg	17-40	8.1	7.3	0.6	0.11	4.4	12	0.7	3.8	N/R	N/R	38.7	18.2	15.1	31.8	12.5	37
B22ss	40-60	8.6	8.1	1.6	0.4	5.1	18	0.8	7.5	N/R	N/R	46.6	24.9	11.6	24.4	13	47.5
B23	60-80	8.8	8.5	2	0.46	5	19	0.7	8.1	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B24kg	80-200	9.2	8.6	1.3	0.25	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Soils in the landscape associated with SW86



Rocky soil on low rises to the west of SW86



Contrasting shallow black self mulching soils on the rise and grey soils on the lower plain

² Source: Government of Victoria State Chemistry Laboratory.